

Effective PTE Limits to Ensure Area Source Status under the NESHAP Program

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Major Sources Can "Synthetically" Become Area Sources to Avoid NESHAP Requirements

- ▶ A major source becomes an "synthetic" area source at such time that the source takes a federally enforceable limit on it's potential to emit hazardous air pollutants below the major source thresholds
 - ▶ 10 tpy of a single hazardous air pollutant (HAP) or 25 tpy of any combination of HAPs.
- ▶ A previously major source of HAPs that became a "synthetic" area source after the effective date of an applicable NESHAP rule would still need to comply with the rule's major source requirements regardless of its level of HAP emissions- known as the EPA's "Once-in-Always-In" Policy, articulated in the May 1995 Seitz memorandum
- ▶ On January 25, 2018, EPA issued a guidance memorandum: *Reclassification of Major Sources as Area Sources Under Section 112 of the CAA* (2018 Reclassification Memorandum)
 - ▶ Memo withdraws EPA's previous "Once In, Always In."
 - ▶ As a result, there has been an increase in request for limits on a source to legally become an area source to avoid previously applicable NESHAPs.

CLASSIFICATION OF A SOURCE DEPENDS ON A IT'S EMISSIONS

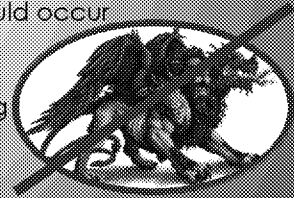
40 C.F.R. § 63.2 Definitions

- ▶ **Major source** means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.
- ▶ **Area source** means any stationary source of hazardous air pollutants that is not a major source as defined in this part.
- ▶ **Potential to emit** means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.

Under the Clean Air Act, 42 U.S.C.S. § 7412(d)(1)-(2), major sources of hazardous air pollutants are potentially subject to stricter regulatory control than are area sources. For example, major sources must comply with technology-based emission standards requiring the maximum degree of reduction in emissions EPA deems achievable, referred to as maximum achievable control technology or MACT standards. In order to obtain an operating permit under title V of the Clean Air Act, 42 U.S.C.S. §§ 501-507, major sources must comply with extensive monitoring, reporting and recordkeeping requirements. 42 U.S.C.S. §§ 7661-7661f.

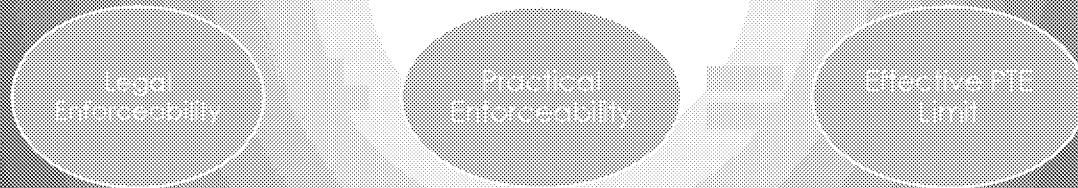
National Mining Ass'n v. EPA (1995)- Challenge to the Definition of PTE

- ▶ The court stated that the term "considering controls" in the definition of "Major Source" is reasonably read to mean (1) **government regulations** that are (2) effective controls and (3) **enforceable as a practical matter**.
 - ▶ EPA interprets "federally enforceable" to include enforceable as both a legal and a practical matter. See 1989 Seitz Memo.
- ▶ The court remanded the federal enforceability requirement (i.e., it was not vacated) because EPA had not adequately explained that it is a reasonable way to ensure that only effective and practically enforceable limits are used.
- ▶ EPA issued a policy that non-federally enforceable limits could be considered to limit a source's PTE where the limits are "**state-enforceable** limits that are **enforceable as a practical matter**" until subsequent rulemaking could occur regarding the definition of PTE in the NESHAP regulations.
- ▶ Court said that PTE does not take into account controls that are only chimeras and do not really constrain an operator from emitting pollution. See also US v. Questar (2011).



59 F.3d 1351 (D.C. 1995)

Limits on a Source's PTE Need to Meet Two Requirements to Effectively Restrain an Operator from Emitting Pollution



Legal Enforceability

- ▶ The limit must be authorized by either the Clean Air Act or a state statute.
 - ▶ Federal regulations are authorized by CAA; state and local regulations are authorized by state statutes
 - ▶ Title V permits cannot be used to create limits to ensure area source status unless the program is authorized to do such. See Tribal NSR.
 - ▶ The requirements for control systems in a Solid Waste permit was legally sufficient to constrain emissions. See Ogden (1996).
- ▶ Limitations or use of pollution control equipment must be required by law, as that is a reasonable means of predicting future emissions. See Alabama Power
 - ▶ Requirements in the major MACT that a source is trying to avoid cannot be used to limit a source's PTE unless they are authorized under another authority.
- ▶ Limitations, controls, and requirements must be permanent, quantifiable, and enforceable as a practical matter.
- ▶ EPA, and at least one court has said that there must be public participation in establishing the limits that restrict PTE. See 1994 Letter to NESCAUM from John Seitz; US v. Marine Shale (1994).

Enforceable as a Practical Matter-

EPA has said that there are three criteria-

- ▶ Technically accurate limitation;
- ▶ Time period for the limitation (e.g., hourly, daily, monthly); and
- ▶ Method to determine compliance, coupled with monitoring, recordkeeping and reporting

67 Fed. Reg. at 80,190-91 (2002)

Criterion 1- Technically Accurate Limitations

- ▶ Blanket Emission Limits Are Not "Technically Accurate Limitations" and Do Not Effectively limit PTE
 - ▶ "Emission limits, in contrast to physical and operational limits, are not to be considered in determining potential to emit." *Louisiana Pacific* (1987)
 - ▶ WHY???- "Expanding the definition of this term to include explicit limitations on emissions would virtually wipe away the entire PSD program because a carefully worded permit (issued under some other regulatory scheme) would completely exempt *any* source from PSD review. The discussion issued by the EPA indicates that the agency merely consented to consider many relevant factors in making **its independent calculation** of a source's potential to emit. However, this statement cannot be read to indicate that the EPA, in drafting this definition, intended to completely relinquish its right and responsibility to make such a calculation." *Id.*

What is a Technically Accurate Limit-Start with the Emission Calculation

- ▶ Emissions must be calculated on a unit-by-unit basis. See 1990 NSR Workbook, App. C, "Potential to Emit"
- ▶ Where raw materials or fuel vary in their pollutant generating capacity, the most polluting-generating substance must be used in the potential to emit calculation unless such material are restricted by enforceable operational or usage limits. Historic usage rates alone are not sufficient to establish PTE. Id.
- ▶ Annual Emissions = Emission Rate(lb/hr) x Operating Hours; or
Emission Rate(lb/unit production) x Production; or
Emission Rate (lb/volume) x Volume Used
- ▶ If you want to ensure an equation remains true (i.e., PTE is not exceeded), then you need to limit the variables in the equation in an enforceable way and make the constants enforceable.

PTE When Using Pollution Controls

- ▶ When permits require add-on controls operated at a specified efficiency level, permit writers should include, so that the operating efficiency condition is enforceable as a practical matter, those operating parameters and assumptions which the permitting agency depended upon to determine that the control equipment would have a given efficiency. *1989 Seitz Memo.*
 - NOTE- This is in addition to the emission limit and production and operational limits required to effectively constrain PTE. In other words, you can't just have an emission limit, and a control efficiency.
- ▶ Permit should have parameter indicator ranges if the source is relying on the control equipment to achieve a certain control efficiency. Merely watching and recording control device parameters does not assure compliance with an emission limit. See In re: Huntley Generating Station (July 31, 2003).
- ▶ The permit should include a requirement to operate the controls at all times.

Not all "numbers" in a permit are technically accurate limitations!

- ▶ Public Citizen v. AEP (2006)- At issue was the enforceability of "5,156 MM BTU/Hr **maximum** heat input rate" as a specific condition in the permit coupled with an emission limit in lbs/hr "while firing at full load."
 - AEP argued that (1) the use of term "maximum" did not prohibit exceeding the heat rate and (2) there is no "direct correlation" between heat rate and emission limit because there are other variables needed to determine emissions.
 - In refusing to grant Summary Judgement on the issue of whether the heat input limit is an "emission standard or limit" enforceable under the CAA, the court found that "maximum" may not be sufficient to make the heat input rate enforceable when the permitting agency uses language like "shall not exceed" for other limits in the permit.

Unless permit terms are precise, enforcement is difficult

- ▶ Sierra Club v. Future Energy Holdings (2013)- At issue was the "maximum heat input at full load" value of 8530 MM BTU/hr per unit in the Texas application, that corresponded to a lb/hr emission limit in the permit.
 - ▶ In providing the maximum heat input, Defendant stated that this value was "typical" for all three units at the facility.
 - ▶ Defendant first argued that "8530 MM BTU/hr" was "too imprecise to be judicially enforceable" and therefore not "an emission standard or limitation" because it said that the value was "typical."
 - ▶ Then, Defendant argued that even though Texas permit applications are enforceable, at best the "8530 MM BTU/hr" in the application was an "annual average" and plaintiff's cannot use MM BTU/hr data reported to show a violation.

Criterion 2- Time Period For The Limitation

- ▶ "Limitations and restrictions must be of sufficient quantity and quality to ensure accountability." 1995 Seitz Memo, *Options for Limiting the Potential to Emit (PTE) of a Source Under Section 112 and Title V of the Clean Air Act (Act)* (emphasis added).
- ▶ Good Rule: An inspector should be able to verify instantly or in a short period of time whether the unit is in compliance with the limitation. 1990 NSR Workbook, App. C, "Potential to Emit" Discussion; see also Region 4 2011 Letter to Mississippi DEQ.

Criterion 3- Monitoring, Recordkeeping, and Reporting

- ▶ Each part of the equation should have a MRR requirement if it or should be set.
- ▶ A TPY blanket emission limit calculated monthly does not turn an blanket emission limit into an effective limit because it still runs afoul of Louisiana-Pacific.
 - Blanket emission limits cannot be turned into technically accurate limitations by frequent monitoring (e.g., 24 tons per 12 months, calculated monthly).
 - A permit requirement to demonstrate that the major source threshold of the NESHAP regulations is not exceeded is not a effective restriction on potential emissions; it is merely a method of monitoring. See Region 4 Comments on Quebecor World Franklin Title V Proposed Permit.

Example 1- Furniture Manufacturer

- ▶ Title V Renewal and Significant Modification to remove applicability of MACT Subpart DDDD (Plywood and Composite Wood) and Subpart JJ (Wood Furniture Manufacturing).
- ▶ Has multiple emission units such as degreasing/parts washing operation, boilers, uncontrolled spray booths, uncontrolled dryer operations, cooling tower, miscellaneous chemical storage, du-all gluer, and diesel fuel tanks.
 - ▶ Maximum actual total HAP reported in one of the past 5 years- 19 tpy
 - ▶ Maximum individual HAP reported in in one of the past 5 years- 9 tpy of toluene
- ▶ From Permit Analysis:
 - ▶ *"Limits [will] be placed in their permit for HAPs of less than 10 tons per year (tpy) and less than 25 tpy of any combination of HAPs or total HAPS on a facility-wide basis. As shown in the table below, the facility's actual HAP emissions reported in their three most recent (2014- 2016) emissions inventory are well below the 10/25 tpy threshold. Therefore, with the appropriate 15A NCAC 02Q .0317 monitoring, recording and recordkeeping added to the permit, no exceedance of the HAP minor limitations is expected."*

Example 1- Furniture Manufacturer

The following permit language does not limit the PTE:

AVOIDANCE CONDITIONS for 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

a. In order to avoid classification as a major source for MACT applicability, the facility-wide emission sources shall discharge into the atmosphere, per consecutive 12-month period, less than:

- i. 10 tons of each individual hazardous air pollutant, and
- ii. 25 tons of any combination of hazardous air pollutant

Monitoring/Recordkeeping Requirements [15A NCAC 02Q .0508(f)]

b. The Permittee shall maintain monthly consumption records of each material used containing hazardous air pollutants as follows:

- i. quantity of individual hazardous air pollutants in pounds used by the facility each month and for the 12-month period ending on that month,
- ii. quantity of all hazardous air pollutants in pounds used by the facility each month and for the 12-month period ending on that month.

Example 2- Container Manufacturer

- ▶ Permit Conditions to ensure VOC emissions are < 100 tpy (major source threshold for New Source Review)- But still a good example for HAPs.
 - ▶ EPA recognizes that criteria pollutant limits can also effectively limit HAPs.
- ▶ This manufacturer also has multiple emission units such as degreasing/parts washing operation, boilers, uncontrolled spray booths, uncontrolled dryer operations, cooling tower, miscellaneous chemical storage, and diesel fuel tanks.

Example 2- Container Manufacturer

- Facility Wide Condition- 2.2. Emissions of VOC from this source shall not exceed 77.2 tons/yr as determined on a rolling 12month basis by calculating the emissions (tons/month) for each month and adding the emissions for the previous eleven months. Monthly VOC emissions (tons/month) shall be determined using the following equation:

$$\text{Monthly VOC Emissions} = \left[(NG) \times (EF) \times (CF) + \sum (Vol_i) \times (D_i) \times (W_i) \right] / 2000$$

Where: NG = scf of natural gas combusted in plant each month

EF = natural gas VOC emission factor: 5.5 lb/10⁶ scf

CF = conversion factor = (10⁶ scf)/(1x10⁶ scf)

Vol_i = volume (gal/mo) of each coating, sealant, solvent and ink used each month

Di = density (lbs/gal) of each coating, sealant, solvent and ink

Wi = mass fraction (lb/lb) of VOC in each coating, sealant, solvent and ink

n = number of coatings, sealants, solvents and inks used each month

Example 2- Container Manufacturer

3. Monitoring and Recordkeeping Requirements

3.1. Each month the permittee shall calculate and record source-wide monthly and rolling 12-month total emissions (tons) for all emission units and pollutant-emitting activities that emit VOC using the equation in Permit Condition 2.2.

3.2. The permittee shall install, calibrate, maintain and operate equipment or systems (which may include an Environmental Database Management System) for tracking and recording the operation and production, such that source-wide emissions can be calculated on a monthly and rolling 12-month basis, including, but not limited to:

3.2.1. Monitoring continuously and recording monthly the total quantity (scf) of natural gas combusted throughout the plant;

3.2.2. Monitoring continuously and recording monthly the volume (gallons) of each coating, sealant, solvent or ink applied or used;

3.2.3. Monitoring continuously and recording monthly the density (lb/gallon) of each coating, sealant, solvent or ink applied or used;

3.2.4. Monitoring continuously and recording monthly the mass fraction of VOC (lb VOC/lb) in each coating, sealant, solvent or ink applied or used; and

3.2.5. Continuously recording all purchases of coatings, sealants, solvents and inks.

Example 2- Container Manufacturer

- ▶ For the natural gas emissions- still missing some an important limitations- an upper boundary on the natural gas usage
- ▶ For the coatings, still missing boundaries on the contents
 - ▶ Limits on the density and mass fraction of VOC in the coatings if you want flexibility on the volume.
 - ▶ Limits on the volume, assuming maximum density and mass fraction, if you want flexibility on the coatings.

IMPORTANT TO REMEMBER WHEN
CREATING EFFECTIVE LIMITS ON A
SOURCE'S PTE:

MERELY REQUIRING A
SOURCE TO CALCULATE THE
EMISSIONS IS NOT THE SAME AS
EFFECTIVELY LIMITING THE
EMISSIONS!

Input Please

- ▶ Is the background helpful? Too much? Too Little
- ▶ What, if any, the problems using the PTE materials focused on NSR limits for discussing how to develop NESHAPs PTE?
- ▶ Should there be more on the "calculation" of PTE- than the simplified equation?
- ▶ What other examples of permit language, good or bad, would be helpful? And, please share examples that you have or come across.